Semi-Annual Performance Report
for activities occurring July 1, 2010 through December 31, 2013
under the
Water Quality Management Planning Grant (604(b)/205(j))
Assistance Agreement C6 - 00J11501
February 6, 2014

In this report for the period ending December 31, 2013, DEQ is requesting EPA approval to:

- Modify the scope of component 2, and shift $10,000 of budget from component 2 to component 1.
- Cancel components 4 and 5 from this grant, and shift their budgets to component 1. DEQ intends to accomplish the goals of components 4 and 5 using non 604(b) resources beyond the end of the grant period.

Task 3 of component 1, Watershed Based Planning, continues to be a priority activity for DEQ to which the agency is dedicating considerable resources. The watershed approach is a way to work cooperatively to deal with the many factors that influence water quality in a single watershed. This geographic focus helps DEQ coordinate internally and with stakeholders to effectively identify and address the most pressing needs of each watershed.

These requested changes will result in shifts between budget categories for which DEQ is also requesting EPA approval. The table below summarizes our projected changes from the original grant budget.

		Original Budget	Spent to 12/13	1/14 - 6/14 Est.	Revised Total	Difference
1	Personal Services (PS)	306,041	304,614	53,440	358,054	52,013
2	Fringe Benefits (Fringe)	143,633	141,928	24,899	166,827	23,194
3	Travel	700	1,267	222	1,490	790
4	Equipment	-	-	-	-	-
5	Supplies	2,395	1,324	232	1,557	(838)
6	Contractual:	124,855	-	25,000	25,000	(99,855)
7	Construction	-	-	-	-	-
8	Other Services	51,761	53,323	9,355	62,678	10,917
9	Overhead / Indirect	84,615	83,710	14,686	98,395	13,780
10	Total Project Cost	714,000	586,167	127,833	714,000	-

Component 1 (Revised August 2011 and April 2012): Support Element 2 of the 2010-2012 and 2012-2014 Performance Partnership Agreements, Appendix C: Develop TMDLs and WQMPs in accordance with 303(d) List schedule and the agreements pursuant to the CZARA litigation settlement agreement (September 2010), and to continue to develop TMDLs to meet the EPA WQ 8 measure. (Estimated FTE: 0.83)

Summary of Project:

The Oregon Department of Environmental Quality (DEQ) is committed to the development of Total Maximum Daily Loads (TMDLs) and related Water Quality Management Plans (WQMPs) for the streams and other water bodies listed on the 303(d) list. DEQ will use this grant award for planning and management activities needed to develop TMDLs and WQMPs according to the 303(d) List schedule and agreements pursuant to the CZARA litigation settlement agreement (September 2010), and to meet the EPA WQ 8 measure.

Scope of Work:

The following concurrent tasks are included in the Scope of Work for this project:

Task 1. OR TMDL-Related Planning Activities
Work activities under this task include coordination activities needed to manage the TMDL program. Typical activities would include:

- Preparing annual workplans and scheduling activities to insure coordination among monitoring, lab, modeling, basin coordinators, and stakeholder efforts;
- Planning, scheduling, incorporation of the 2004/2006 and 2010 303(d) list segments into the existing workload;
- Planning and managing TMDL staff resources, including people, schedules, and funds to maximize program efficiency;
- Participating in Oregon efforts in developing new guidance to implement revised standards, such as the new temperature and turbidity standards; and
- Enhance communication and consistency within the TMDL program as well as with related programs such as permitting, WQ standards, nonpoint sources efforts, Land Quality, and Air Quality.

Status:

- Performed planning and work on the following TMDLs: Deschutes Basin; Mid Coast Basins; and Coquille Basin.
- Continued monthly conference calls (that began in March 2012) with TMDL & NPS DEQ staff to talk about NPS issues and TMDL development, implementation, and monitoring.
- EPA approval of TMDLs for:
    - Wallowa-Imnaha-Lower Grande Ronde, Malheur, John Day, Upper Klamath and Lost River, and Tualatin Basins
- Held a Watershed Stewardship Workshop for coordination of TMDL, NPS, and other water quality staff for coordination of staff for water quality watershed activities.

- Developed a draft guidance document for TMDL development and implementation.

Task 2. Participation In EPA Regional & National TMDL-Related Planning Activities
Work activities under this task include Oregon's participation in EPA Region 10 and national TMDL-related planning activities such as the various multi-state activities needed to insure coordination among adjacent states, EPA, federal action agencies, and the federal services. This would include attendance and travel associated with related meetings and conferences, typically those held outside of Oregon.

Status:

DEQ staff and management have participated in formal and informal meetings with EPA and stakeholders on various TMDL related activities. DEQ continues to work on development of the Watershed Approach and coordinate the TMDL Program with the Nonpoint Source, Drinking Water, Permitting, On-Site, and other Water Quality Programs.

DEQ participated in the 2011, 2012, and 2013 National Training Workshop on CWA 303(d) Listings and TMDLs.

Task 3. Watershed Based Planning Activities
Work activities under this task include on a rotating basin scale with three basins each year: evaluation of water quality data; identification of impairments and the potential causes; communication, coordination, and collaboration between ODEQ sub-programs to address water quality impairments. This effort is a continuation of the Watershed Based Approach and is modeled after the USEPA Watershed Planning Process.

Status:

- The Watershed Approach Basin Reports for the South Coast, Clackamas/Sandy, Upper Willamette, Umatilla, and Tualatin Basins are nearing completion.
- Watershed Approach Basin Reports are midway through completion for the Klamath, Umpqua, and lower Willamette Basins.
- Watershed Approach Basin Reports for the Powder/Burnt, Deschutes, North Coast, and Rogue Basins are completed. (These reports are completed and were posted to our website on February 3, 2012 and can be found at: http://www.deq.state.or.us/WQ/watershed/watershed.htm.)

Contact Information:

Gene Foster, Manager
Watershed Management Section
Oregon Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204
(503)-229-5325
foster.eugene.p@deq.state.or.us

Primary task leader:
Same.

Component 2 (Revised April 2012): Database Application for Effluent Outfall Information - ($35,000; Estimated FTE: 0.0 (Project to be contracted))

Summary of Project:
This project will fund a contractor to modify DEQ's Discharge Monitoring System (DMS) to support the capture, storage and dynamic retrieval of effluent outfall location data and mixing zone information. The effluent outfall location data is used to map permitted water quality pollution sources' discharge points onto state water bodies and connect Oregon's water monitoring and quality assessment data sets to effluent discharge and other permitting program data sets.

DEQ conducted fieldwork in 2008 and 2009 to obtain outfall location data (coordinates and associated metadata) of known quality for most of Oregon's NPDES individual permitted facilities. The collected data is currently maintained manually, outside of any core agency database. Modifications to DMS (the state's permitted effluent database) will provide the functionality to allow DEQ staff to capture, update and review outfall location data and associated metadata, and mixing zone information, ensuring this data remains current and accurate. Additionally, these database changes will allow for the retrieval of outfall and mixing zone information for use in the Oregon's TMDL program and, eventually, in other existing and planned DEQ applications. This project will continue to build on previous DEQ projects which delivered outfall location data of known quality for most Oregon individual permitted sources and requirements analysis and design specifications for completing the necessary database modifications to support the dataset.

Scope of Work: The following tasks are included in the scope of work for this project.

Build ASP.NET pages for the Discharge Monitoring System user interface according to specifications developed by DEQ using DEQ standards and coding practices. The Discharge Monitoring System is an existing internal application used to capture information about effluent monitoring locations, limits, required monitoring in water quality permits and effluent discharge reported by wastewater treatment facilities.

a. Modify the DMS ASP.NET user interface using Microsoft Visual Studio to support entry and management of the Oregon Outfall Location Data set.
b. Create stored procedures necessary to support OLD entry and management via the ASP.Net pages making up the DMS user interface.
c. Make corrections to the DMS user interface ASP.Net pages and/or stored procedures as needed based on two rounds of user testing.

Task Two: Create an SQL Server Integration Services (SSIS) package to migrate outfall information currently stored in spreadsheets into the outfall tables in the Discharge Monitoring System.

Task Three:
Build standard queries and an accessible Intranet interface that will allow easy extraction of the effluent discharge OLD stored in the Discharge Monitoring System for use in data quality control procedures and

watershed analysis. The procedures and pages will be developed according to specifications developed by DEQ using DEQ standards and coding practices.

a. Create a new Visual Studio solution for several new ASP.Net pages.
b. Create all stored procedures necessary to provide data to the ASP.Net pages.
c. Make corrections to the ASP.Net pages and/or stored procedures as needed based on user testing.

Component 2 Status:

As of the end of the last reporting period, DEQ had begun requirements analysis for this component. At the time, the scope of work was still current, but it was known that adjustments would be necessary to reflect changes in technology since it had been planned, and discussion of this had been initiated with EPA, to good reception.

As of the end of this reporting period, DEQ proposes to accomplish the same goals (plus some additional) by funding a contractor to modify not DEQ's Discharge Monitoring System, as originally proposed, but our Latitude/Longitude Identification (LLID) Tool Platform. At a high level, supporting the capture, storage and dynamic retrieval of effluent outfall location data and mixing zone information is unchanged, though the methodology is somewhat different due to the different platform. The newer technology is less expensive and more powerful. Combined with a more hands-on approach, this will enable DEQ to add support for several functions and types of data useful to the TMDL and Water Quality Permitting programs, while actually reducing project costs. The added functions are River Mile calculator, LLID calculator, standards boundaries, drinking water source areas, and 303(d) WQ Assessment "Integrated Report" data. (Some of these were earlier to be accomplished in the now-cancelled Component 3 project.) The cost of the project on the new platform, even including the added features, is reduced from 35,000.00 to $25,000.00. DEQ requests reprogramming of the remaining $10,000.00 to Component 1.

Contact Information:

Gene Foster, Manager
Watershed Management Section
Oregon Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204
(503)-229-5325
foster.eugene.p@deq.state.or.us

Primary Task Leader:

Joshua Weber, Water Quality Project Manager
Oregon Department of Environmental Quality
811 SW 6th Avenue
Portland, OR 97204
(503) 229-6200
Weber.joshua@deq.state.or.us

Component 3 (Project cancelled in April 2012 grant revision): Water Quality Geographic Information System - ($7,000; Estimated FTE: 0.0)

Component 4 (New: April 2012): Water Body Assessment Roadmap - ($30,000.00; Estimated FTE: 0.0 (Project to be contracted))

Summary of Project:

The Water Body Assessment (WBA) data stream is a complex flow of data consisting of the collection, management and reporting of information supporting analysis of the quality of Oregon water bodies and the associated processes. (Data and business processes are not considered separately.) The data stream supports ambient water quality analysis, development and application of WQ standards, cyclical 303d assessment, TMDLs and waste load allocation and reporting for national aggregate uses. Oregon WBA data originates via field collection and laboratory capture by DEQ and other agencies; submission by local watershed councils and other volunteer groups, commercial laboratories and regulated entities; and generation by DEQ processes such as TMDLs and the biennial assessment report. This data stream is fundamental to responsible water quality program management and good decision making.

Multiple discontinuities in the current Oregon WBA data stream and discrepancies between current and ideal handling and process flow are impairing efficient use of the data and causing serious frustrations at both the state and federal level. This component will procure a contractor to construct a process roadmap of how the Oregon WBA data stream should operate; make recommendations to address several specific concerns and generally improve the process, including a recommended sequence of process and infrastructure improvement projects; and produce a high-level project plan for the first of those projects.

Scope of Work: The following tasks are included in the scope of work for this project.

Task One: Produce a project plan and other interim deliverables (Decision making tools, reporting schedule, etc.) for this contracted project component.

Task Two: Produce a "roadmap" of how to improve the Oregon Water Body Assessment Data Stream.

a) Document and evaluate the current Oregon WBA data stream and associated processes.
b) Address several specific questions on WBA data supported processes, including:
    i) Can Oregon use the EPA Assessment database (ADB) format to support production of its own 303(d)/305(b) Integrated assessment report? What changes or additions would be necessary in order to do so?
    ii) What changes must take place in the Oregon Assessment methodology in order to ensure an ability to track attainment status over multiple assessment cycles?

(1) What portions of Oregon's Assessment methodology must remain constant from cycle-to-cycle, and what portions can be flexible, dependent upon parameters under scrutiny or other concerns?
(2) What stream segmentation methodology should be employed? How would a conversion to NHD affect this?
(3) What methodology should be employed for seasonally applicable WQ standards?
(4) Are there other changes to DEQ's application of WQ standards, practices and procedures necessary or desirable in order to do this?

iii) What must be done to transform past Oregon 303(d) Assessment data sets into a form compatible with that recommended for future cycles, above, such that DEQ can track attainment status changes through all recorded Oregon assessment cycles?
iv) How should Oregon generate 303(d) Assessment output data in requested electronic format for transmission to EPA? What infrastructure and/or procedures must be developed?
v) How should DEQ use multiple cycle 303(d) Assessment output data to best assess and document the effectiveness of Oregon TMDL implementation?

c) Make recommendations to generally improve the process.
d) Produce a process map of how the Oregon WBA data stream and associated business processes should best operate.
e) Recommend a sequence of manageable-sized process and infrastructure improvement projects to move DEQ from the current process to the recommended new processes.

Task Three: Produce a high-level project plan for the first of the projects in the recommended sequence from task 2(e) above: "Acquire and implement an Oregon electronic WBA Electronic Data Submission Application".

Component 4 Status:

DEQ has delayed execution of the effort that makes up Component 4 of this project to better integrate it into larger-picture work, and will complete the effort using non-604(b) funds in the near future. DEQ now requests reprogramming of the $30,000.00 identified for this component to Component 1.

Contact Information:
Gene Foster, Manager
Watershed Management Section
Oregon Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204
(503)-229-5325
foster.eugene.p@deq.state.or.us

Primary Task Leader:
Josh Weber, Permits Data Project Manager
Oregon Department of Environmental Quality
811 SW 6th Avenue
Portland, OR 97204
(503) 229-6200
Weber.Josh@deq.state.or.us

Component 5 (New: April 2012): Water Body Assessment Data Submission Tool - ($60,000; Estimated FTE: 0.0 (Project to be contracted))

Summary of Project:

The Oregon 303(d) subprogram and other water quality subprograms such as TMDL development and volunteer water quality monitoring program, struggle with collection and management of third-party, Water Body Assessment (WBA) data. This component will procure an electronic WBA Data submission Tool to allow approved external data providers to submit water quality data to Oregon DEQ via a secure web interface, and draft DEQ procedures for doing so.

This application will facilitate control of the quality of data submitted and direct submitted data to storage in an existing, centrally located, manageable and accessible database. Data quality will be assured by controlling who is able to submit data through username/password and other security measures, and by applying basic business rules to data submissions (including submission "templates" and data staff acceptance) to make sure they are complete and in a consistent format before being directed to data warehousing and used in environmental decision making.

Note: 1) This component directly follows from *Component 4, Task Three*: **"**Produce a high-level project plan [to]… "Acquire and implement an Oregon electronic WBA Electronic Data Submission Application". 2) Some needs analysis and data infrastructure remains from a previous effort. The infrastructure is incomplete and archaic, but still in use. This project will examine previous project analyses for reusable material and extract all usable data before decommissioning the old infrastructure.

Scope of Work: The following tasks are included in the scope of work for this project. A contractor will be procured to:

Task One: Produce a project plan and other interim deliverables (decision making tools, reporting schedule, etc.) for this contracted project component. The project plan will be based upon the "high-level project plan" developed in *Component 4, Task Three*.

Task Two: Acquire or develop an Oregon Water Body Assessment Data Submission application, which shall:

a) Be an outward-facing, web-based application, compatible with current agency infrastructure and constellation of enterprise service applications
b) Incorporate and use appropriate security, chain-of-custody and records management capabilities, as per applicable industry standards, policy, rule and law.
c) Have the capability to allow the system coordinator to manage process entities and credentials at least at the individual, data template, project and submitting organization level.
d) Have the capability to allow the WBA data coordinator to reject, accept and approve data and direct accepted data to at least one DEQ core database.

e) Have an available system maintenance plan of known and reasonable cost which will be put into force at the expiration of the maintenance period associated with the purchase or development project itself.

Task three: Conduct a short pilot project to test external stakeholder and DEQ staff use of infrastructure, and clarity of draft process documentation.

Task four: Finalize documentation for DEQ business process manual, system support and maintenance and technical transfer.

Component 5 Status:

Planning and execution of this component is dependent upon successful execution of a second, umbrella project (the Oregon eDMR/CROMERR project) largely outside the scope of 604(b) efforts. While DEQ anticipates eventual success of the parent project, it has been proceeding too slowly to successfully execute Component 5 within the present 604(b) timeframe. DEQ will complete this effort using non-604(b) funds in the near future, and requests reprogramming of the $60,000.00 identified for this component to Component 1.

Contact Information:
Gene Foster, Manager
Watershed Management Section
Oregon Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204
(503)-229-5325
foster.eugene.p@deq.state.or.us

Primary Task Leader:
Steve Hanson, Volunteer Monitoring Coordinator
LEAD Division, Water Quality Monitoring Section
Oregon Department of Environmental Quality
811 SW 6th Avenue
Portland, OR 97204
Phone: 503.693.5737
hanson.steve@deq.state.or.us